**WEEK-1 (6397712 BANDARU SOWMYA)**

**Exercise 2: Implementing the Factory Method Pattern**

**MAIN.JAVA**:

package documentmanagement;

public class Main {

public static void main(String[] args) {

// Create factories

DocumentFactory wordFactory = new WordDocumentFactory();

DocumentFactory pdfFactory = new PdfDocumentFactory();

DocumentFactory excelFactory = new ExcelDocumentFactory();

// Create documents using factories

Document wordDoc = wordFactory.createDocument();

Document pdfDoc = pdfFactory.createDocument();

Document excelDoc = excelFactory.createDocument();

// Test document operations

wordDoc.open();

pdfDoc.open();

excelDoc.open();

}

}

**DOCUMENT.JAVA:**

package documentmanagement;

// Interface for different document types

public interface Document {

void open();

}

**WORDDOCUMENT.JAVA:**

package documentmanagement;

public class WordDocument implements Document {

@Override

public void open() {

System.out.println("Opening Word document...");

}

}

**PDFDOCUMENT.JAVA:**

package documentmanagement;

public class PdfDocument implements Document {

@Override

public void open() {

System.out.println("Opening PDF document...");

}

}

**EXCELDOCUMENT.JAVA:**

package documentmanagement;

public class ExcelDocument implements Document {

@Override

public void open() {

System.out.println("Opening Excel document...");

}

}

**DOCUMENTFACTORY.JAVA:**

package documentmanagement;

public abstract class DocumentFactory {

public abstract Document createDocument();

}

**WORDDOCUMENTFACTORY.JAVA:**

package documentmanagement;

public class WordDocumentFactory extends DocumentFactory {

@Override

public Document createDocument() {

return new WordDocument();

}

}

**PDFDOCUMENTFACTORY.JAVA:**

package documentmanagement;

public class PdfDocumentFactory extends DocumentFactory {

@Override

public Document createDocument() {

return new PdfDocument();

}

}

**EXCELDOCUMENTFACTORY.CLASS:**

public class ExcelDocumentFactory extends DocumentFactory {

public ExcelDocumentFactory() {

throw new Error("Unresolved compilation problem: \n\tThe declared package \"documentmanagement\" does not match the expected package \"\"\n");

}

public Document createDocument() {

throw new Error("Unresolved compilation problem: \n");

}

}

EXCELDOCUMENTFACTORY.JAVA:

package documentmanagement;

public class ExcelDocumentFactory extends DocumentFactory {

@Override

public Document createDocument() {

return new ExcelDocument();

}

}

**OUTPUT:**

















